In the Claims:

1. (Thrice Amended) A method for aligning a cloverleaf micro-gyroscope having a resonator plate elastically suspended in ~~a resonator~~ an x-y plane defining a resonator plate suspension, the resonator plate for sensing and actuation of the resonator plate rocking about the x and y axes, at least four electrodes in an electrode plane adjacent said ~~resonator~~ x-y plane, and closed loop control of the resonator plate rocking motion about the ~~drive and output~~ x and y axes, said method comprising the steps of:

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detecting mechanical misalignment, K_{xy}, of ~~a sense axis of~~ said resonator plate suspension in the x-y plane ~~relative to said drive axis~~; and

~~correcting~~ nulling the effect of the mechanical misalignment of the resonator plate suspension ~~axis~~ to zero by applying an electrostatic bias adjustment ~~applied~~ to one an electrode of said at least four electrodes ~~to produce a force in cross axis to the electrode plane~~ to produce a cross-coupling electrostatic stiffness K^e_{xy} to cancel the mechanical misalignment, K_{xy}, caused by misalignment of the resonator plate suspension in the x-y plane.

2. (Twice Amended) The method as claimed in claim 1 wherein said step of detecting mechanical misalignment further comprises detecting mechanical misalignment by way of quadrature signal amplitude obtained by demodulation of a signal of said ~~output~~ y axis using a signal in quadrature to ~~a drive~~ said x axis rate signal.

3. (Original) The method as claimed in claim 1 further comprising the step of nulling an in-phase bias.

4. (Amended) The method as claimed in claim 3 wherein said step of nulling an in-phase bias further comprises nulling by electronically coupling a torque component of said ~~drive~~ x axis with said ~~output~~ y axis.

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5. (Thrice Amended) A method for tuning a cloverleaf micro-gyroscope having a resonator plate elastically suspended in an x-y ~~in a resonator~~ plane defining a resonator plate suspension, said resonator plate for sensing and actuation of the resonator plate rocking about the x and y axes, at least four electrodes in an electrode plane adjacent said resonator plane, and closed loop control of ~~drive and output axes~~ the resonator plate suspension in the x-y plane, said method comprising the steps of:

detecting residual mistuning that is a result of mechanical asymmetry by way of a signal; and

correcting said residual mistuning to zero by way of applying an electrostatic bias adjustment ~~applied~~ to ~~an~~ one electrode of said at least four electrodes ~~to produce a force in cross axis to the electrode plane~~ to produce a negative electrostatic stiffness that reduces the frequency of a higher frequency resonator vibration mode.

6. (Original) The method as claimed in claim 5 wherein said step of detecting residual mistuning further comprises detecting by way of a quadrature signal noise level.

7. (Original) The method as claimed in claim 5 wherein said step of detecting residual mistuning further comprises detecting by way of a transfer function test signal.

8. (Thrice Amended) A method for independently aligning and tuning a cloverleaf micro-gyroscope having a resonator plate elastically suspended in an x-y plane defining a resonator plate suspension for sensing and actuation of the resonator plate about an x-axis and a y-axis ~~in a resonator plane~~, at least four electrodes in an electrode plane adjacent said x-y ~~resonator~~ plane, and closed loop control of the resonator plate rocking motion about the ~~drive and output~~ x and y axes, said method comprising the steps of:

detecting mechanical misalignment of ~~a~~ the resonator plate suspension in the x-y plane ~~sense axis of said resonator relative to said drive axis; and~~

~~correcting~~ nulling the effect of the mechanical misalignment of the resonator plate suspension in the x-y plane to zero by applying an electrostatic bias adjustment ~~applied~~ to an electrode of the at least four electrodes to ~~produce a force in cross axis to said electrode plane~~ produce a cross-coupling electrostatic stiffness K^e_{xy} to cancel the mechanical misalignment K_{xy} arising from the misalignment of the resonator plate suspension in the x-y plane;

detecting a residual mistuning that is a result of mechanical asymmetry by way of a signal; and

correcting said residual mistuning by ~~way of~~ applying an electrostatic bias adjustment ~~applied~~ to an electrode of said at least four electrodes ~~to produce a~~

~~force in cross axis to the electrode plane minimizing a tuning signal~~ to produce a negative electrostatic stiffness that reduces the frequency of a higher frequency resonator vibration mode.

9. (Original) The method as claimed in claim 8 wherein said step of detecting a residual mistuning further comprises detecting a residual mistuning by way of a quadrature signal noise level.

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10. (Original) The method as claimed in claim 8 wherein said step of detecting a residual mistuning further comprises detecting a residual mistuning by way of a transfer function test signal.

11. (Original) The method as claimed in claim 8 further comprising the step of nulling in-phase bias.

12. (Currently Amended) The method as claimed in claim 11 wherien said step of nulling further comprises electronically coupling a torque component of said ~~drive~~ x axis with said ~~output~~ y axis.

13. (Original) The method as claimed in claim 8 wherein said micro-gyroscope closed loop control further comprises:

using separate sensors and actuators for said step of correcting said misalignment and said step of correcting said residual mistuning.

14. Cancelled.

15. (Currently Amended) The method as claimed in clami ~~14~~ 8 further comprising the step of applying a bias voltage to a drive electrode on said ~~drive~~ x axis that is different from a bias voltage to another drive electrode on said ~~drive~~ x axis.

16. (Original) The method as claimed in claim 8 further comprising the step of introducing a relative gain mismatch, $\delta_T \neq 0$, to each drive electrode on said drive axis.

17. (Original) The method as claimed in claim 8 further comprising the step of maximizing a stiffness matrix K.

18. (Original) The method as claimed in claim 8 wherein said step of correcting said residual mistuning to zero further comprises adjusting a total stiffness of said micro-gyroscope.